

## Repair Manual

Touran 2003 ➤ , Passat 2006 ➤ ,  
Passat Variant 2006 ➤ , Eos 2006 ➤ ,  
Tiguan 2008 ➤ , Passat CC 2009 ➤ ,  
Scirocco 2009 ➤ , Golf 2009 ➤ ,  
Golf Plus 2009 ➤ , Polo 2010 ➤ ,  
Golf Variant 2010 ➤ , Jetta 2011 ➤ ,  
CC 2010 ➤ , Touareg 2010 ➤ ,  
Sharan 2011 ➤ , Polo Lim RUS 2011 ➤ ,  
Passat 2011 ➤ , Passat Variant 2011 ➤ ,  
Golf Cabriolet 2012 ➤ , Beetle 2012 ➤ ,  
Passat (NMS - US) 2012 ➤ , up! 2012 ➤ ,  
The Beetle Cabriolet 2012 ➤ , CC 2012 ➤ ,  
Golf 2013 ➤ , e-up! 2014 ➤ ,  
e-Golf 2014 ➤ , Golf Variant 2014 ➤ ,  
Polo KH MY 2014 ➤ ,  
Polo Lim MY 2014 ➤ , Golf 2015 ➤ ,  
Jetta 2013 ➤ , Polo 2014 ➤ ,  
Scirocco 2015 ➤ , Golf Sportsvan 2015 ➤ ,  
Jetta 2015 ➤ , Polo KH IN 2015 ➤ ,  
Passat 2015 ➤ , Passat Variant 2015 ➤ ,  
Touareg 2015 ➤ , Polo KH MY 2015 ➤ ,  
Golf Variant 2015 ➤ , Touran 2016 ➤ ,  
Passat (NMS - US) 2016 ➤ ,  
Polo Lim IN 2016 ➤ ,  
Polo Lim MY 2016 ➤ ,  
Polo Lim RUS 2016 ➤ , Sharan 2016 ➤ ,  
Tiguan 2016 ➤ ,  
The Beetle Cabriolet 2017 ➤ ,  
e-up! 2017 ➤ , up! 2017 ➤ , Golf 2017 ➤ ,  
Golf Variant 2017 ➤ , Atlas 2017 ➤ ,

e-Golf 2017 ➤ , Polo 2018 ➤ ,  
Tiguan RUS 2017 ➤ ,  
Tiguan MEX 2017 ➤ , Arteon 2018 ➤ ,  
T-Roc 2018 ➤ , Golf MEX 2018 ➤ ,  
Golf Variant MEX 2018 ➤ , Jetta 2018 ➤ ,  
Touareg 2018 ➤ , Golf Sportsvan 2018 ➤ ,  
T-Cross 2019 ➤ ,  
Passat (NMS - US) 2019 ➤ ,  
Passat 2019 ➤ , Passat Variant 2019 ➤ ,  
Golf 2020 ➤ , ID.3 2020 ➤ , Atlas 2020 ➤ ,  
T-Roc Cabriolet 2020 ➤ ,  
Atlas (PA) 2020 ➤ ,  
Polo Lim RUS 2020 ➤ , Arteon 2021 ➤ ,  
Arteon Shooting Brake 2021 ➤ ,  
ID.4 2021 ➤ , Tiguan 2021 ➤ ,  
Taos Mex 2021 ➤ , Taos Arg 2021 ➤ ,  
ID.5 2021 ➤ , Polo 2022 ➤ ,  
Tiguan MEX 2022 ➤ , Jetta 2022 ➤ ,  
Taigun 2022 ➤ , T-Roc 2022 ➤ ,  
T-Roc Cabriolet 2022 ➤ , Virtus 2022 ➤ ,  
ID.4 - NA 2023 ➤ , Touareg 2024 ➤ ,  
Atlas (PA) 2024 ➤ ,  
Cross Sport PA 2024 ➤ , Jetta 2025 ➤

## Guide for Locating Water Leaks

Edition 08.2024



## List of Workshop Manual Repair Groups

### Repair Group

00 - General, Technical Data



Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.





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## 00 – General, Technical Data

### 1 Introduction

(Edition 08.2024)

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The handbook helps to receive, locate and repair complaints regarding water leaks. All descriptions and illustrations are examples.

The Service Advisor should use the checklist to help determine the exact concern with the customer to roughly locate the water leak or to exclude various causes. Check the TPIs (Technical Product Information) in the Technical Service Handbook (HST) for this.

The technician should use this handbook in the same manner as a repair manual, to organize the steps to located the water leak locations. To repair water leaks, there are different repair procedures depending on the entry location.

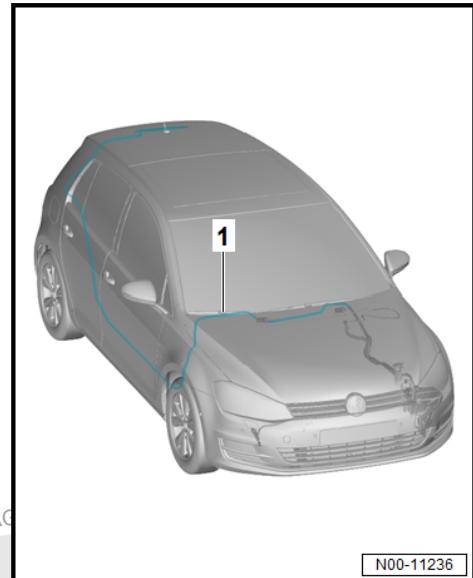




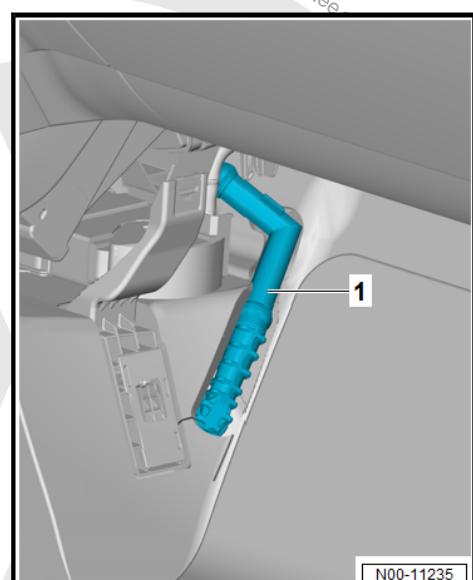
## 2 Causes

- ⇒ [“2.1 Vehicle Fluids”, page 2](#)
- ⇒ [“2.2 Exterior Influences”, page 2](#)
- ⇒ [“2.3 Components”, page 3](#)

### 2.1 Vehicle Fluids



- ◆ Coolant (for example washer fluid hose and heater core in the vehicle interior)
- ◆ Windshield washer fluid (for example hose -1- from the reservoir to the rear window washer system)
- ◆ Condensation water from the evaporator (for example water drain -1- from the evaporator is blocked)



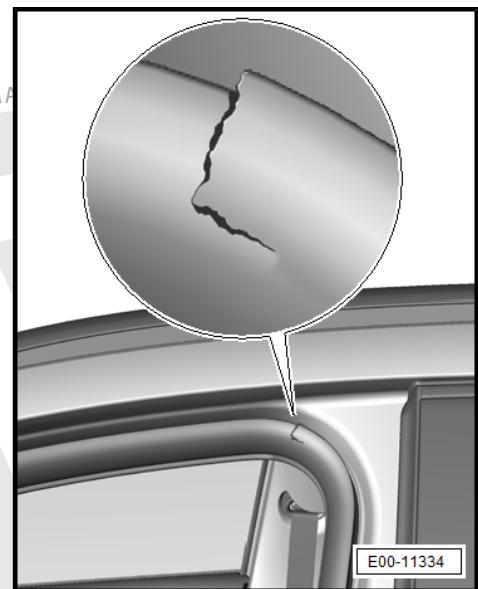
### 2.2 Exterior Influences

- ◆ Rain Water
- ◆ Water from washer systems or hand vehicle washing (with or without detergent)
- ◆ Snow, melting snow



## 2.3 Components

Damaged seals for example on the doors and lids.



Faulty adjusted doors, lids, window glass and sunroof panel.

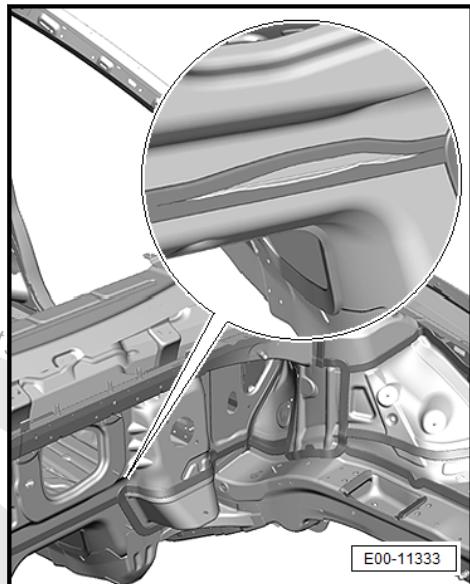


Via leaves and flowers in the afflicted water drains.

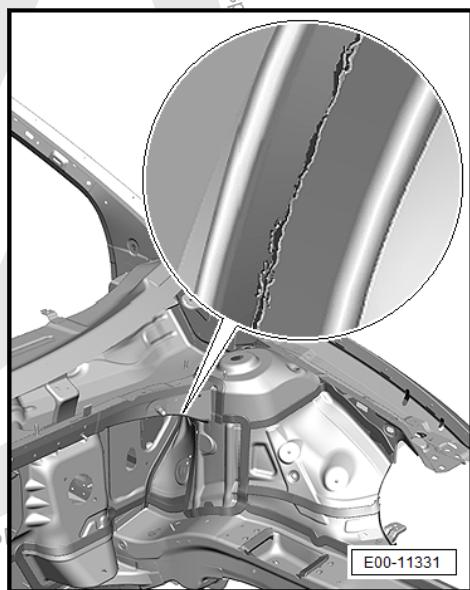




Forgotten sealant, not fitting seals



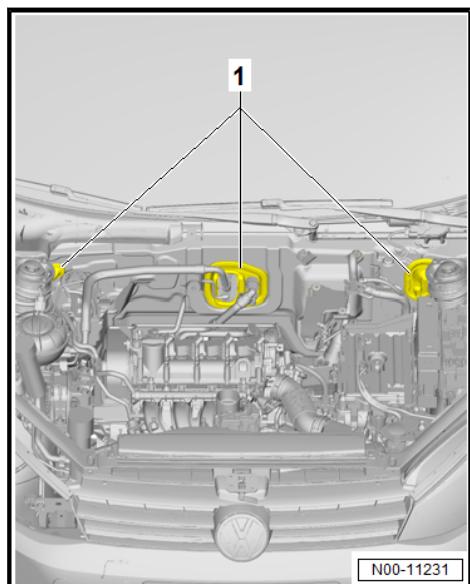
An improper repair of accident damage, incorrectly welded areas, burned through weld points or weld seams.



Plugs and grommets -1- that were not properly or completely installed.

Additional possibilities for a water leak:

- ◆ Customer operating error.
- ◆ Additional installation, removal or customizations.
- ◆ Production faults such as missing fine-seam sealant in the body area such as faulty welding and boding that is not clean.
- ◆ Constructional properties, not technically changeable (for example missing gutter) These should be explained to the customer.
- ◆ Aging or wear of seals and sealant.





### 3 Water Leak, Locating

⇒ ["3.1 Service Advisor Preparations", page 5](#)

⇒ ["3.2 Procedures from Technician", page 5](#)

⇒ ["3.3 Examples of Water Leak Causing Components", page 6](#)

#### 3.1 Service Advisor Preparations

- ◆ Exact determination by questioning the customer using the checklist.
- ◆ Pay attention to TPIs (Technical Product Information) in the Technical Service Handbook (HST).
- ◆ In some cases a road test with the customer if necessary also in a washer system.
- ◆ If leaking vehicle fluids are determined a targeted work order can be created.
- ◆ Visual inspection of damaged seals, accident damage and blockages of water drains such as in the plenum chamber.
- ◆ Give the filled out checklist, TPIs (Technical Product Information) and the result of the conversation with the customer to the technician.

#### 3.2 Procedures from Technician

##### Locating the water leak from exterior influences.

The water always collects at the lowest location in the vehicle. For this reason, in general work is performed from below upward.

Before starting to locate, the vehicle must be dry on the inside and outside.

The water leak locations to the vehicle interior does not have to be the same as the water entry point.

The water used should be as "soft" as possible. The addition of detergent in drop dosage must be planned for in appropriate circumstances.

To locate first the necessary trim panels must be removed from the corresponding location. For example, water enters via the door, remove the door trim panel and in some cases the entry trim as well. This way the water route can be followed and the exact water leak location can be determined.

A technician remains in the vehicle and follows the water route up to the entry point.



At the same time, a second technician sprinkles the vehicle from the outside with water, starting from the bottom and slowly working upward. The water jet must not be concentrated or pointed with great pressure on the vehicle. This can lead to identification errors.

- The spray head must be set to spray (soft stream).
- After the location is determined, perform the corresponding repairs.
- ◆ Seal penetrable seal seams.
- ◆ Seal missing adhesive or remove the component and install using new sealant.
- ◆ If there is not enough sealing pressure, adjust the components to each other.

Then perform an additional leak test, if necessary a road test is helpful. Re-install trim panels or covers after a successful repair.

The sealing pressure can be determined using strong paper (as strong as a business card) or chalk. Chalk indicates if the seal makes contact. The pressure can be determined using the paper. At the same time the paper must only be able to be removed from between the components with some difficulty.

If the water leak location is not found using these tools, insert the additional listed components.

For better identification the fluorescent leak detection (Liqui Moly 3339) Z 371225 TEA can be filled according to the manufacturer allocations in the spray bottle and sprayed on the suspected locations. In the vehicle interior an additional technician follows the water route using the UV Leak Detection Lamp - VAS 6201/4- .

For procedures with the tools Ultrasonic Tester - V.A.G 1842S- and Borescope - VAS 6748A- refer to the supplied Owner's Manual.

### 3.3 Examples of Water Leak Causing Components

#### Sliding Sunroof

Water leakage on the sliding sunroof due to blocked water drain valves are corrected using the Drain Snake - VAS 6620- . The water drain hoses are designed for 2.0 liters/min. Larger quantity cannot be drained. Compressed or kinked water drain hoses are replaced. Refer to => Body Exterior; Rep. Gr. 60 ; Sliding Sunroof .

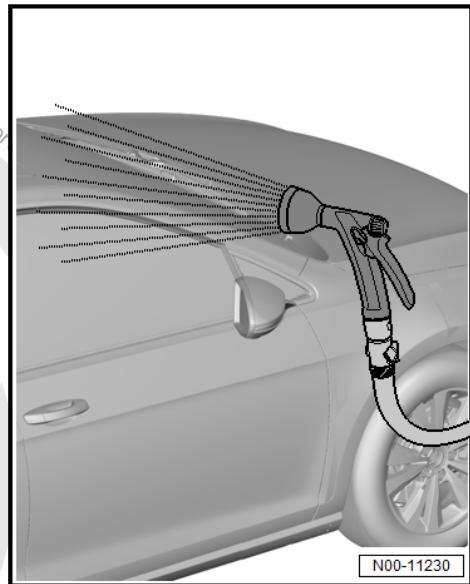
#### Window glass

Leaks on bonded window glass originate for example due to missing adhesive, broken or insufficient height of the adhesive bead or incorrect use of chemicals for example switching glass/ paint primer and activator. Refer to => Body Exterior; Rep. Gr. 64 ; Glass .

On bolted side windows the cause is insufficient sealing of the window seal to the body.

#### Doors

If water escapes under the door trim panel, check for the cause, for example on the window guide, outer window shaft strip, in connection with not completely installed grommets, foils, cable grommets, inner cover or incorrectly installed speaker. On old vehicles also the subframe or inner door foil.





## Rear Lid

Water leak from the exterior is possible due to an insufficient bonding of the rear window and faulty sealing of the rear window, tail lamps or mounting elements.

From vehicle fluids only through a leaking hose from the rear window washer system.

## Luggage Compartment

Leaking rear lid seal, missing fine-seam sealant, missing or damaged tail lamp seals.

## Vehicle Interior, Front and Rear Footwell

Damage to the underbody, missing or insufficient fine-seam sealant, missing or incorrectly installed plugs or grommets for the cable grommets, water overflow through doors or sliding sunroof, insufficient bonding of the window glass, water overflow due to blocked water drain valve in the plenum chamber, faulty (welded through) weld points/weld seams.





## 4 Tools for Entry Point Location

### Special tools and workshop equipment required

- ◆ Commercially available cloth tape
- ◆ Detergent
- ◆ Flashlight
- ◆ Strong paper (as strong as a business card)
- ◆ Chalk
- ◆ Hose with spray head
- ◆ Fluorescent Leak Detection (Liqui Moly 3339) Z 371225 TEA
- ◆ Pump bottle: Z 371439 TE
- ◆ UV Leak Detection Lamp - VAS 6201/4-
- ◆ Drain Snake - VAS 6620-



- ◆ Ultrasonic Tester - V.A.G 1842S-



- ◆ Borescope - VAS 6748A-





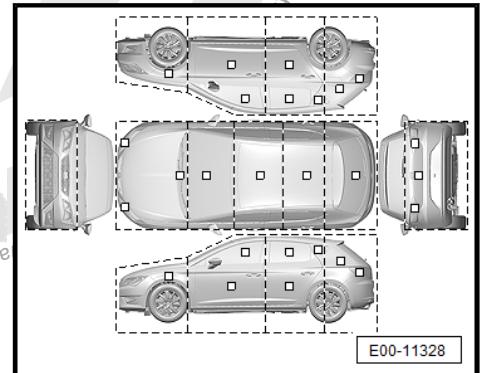
## 5 Systems

⇒ **"5.1 Checklist", page 9**

### 5.1 Checklist

Protocol for locating water leaks				
Vehicle data: (filled out together with the vehicle user)				
Item no.:		Brand:		Production date:
Date:		Status:		Car dealer:
Vehicle Identification Number (VIN)				Model
Engine type:		Mileage:		Retrofittings:
Transmission type:		Service technician:		
Was a vehicle inspection performed?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
Was the customer complaint confirmed?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	

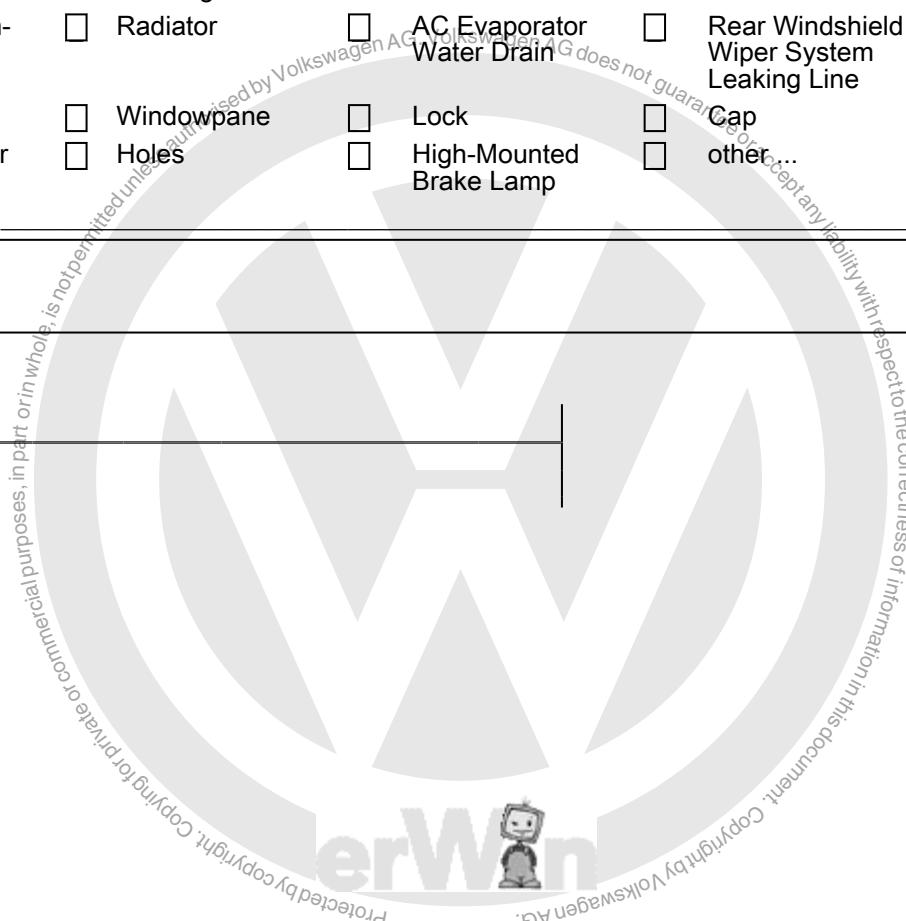
Mark in the image the area where the water is located



Since when has this water leak <u>  </u> km	Always <input type="checkbox"/>	Recently <input type="checkbox"/>
occurred?		
Increasingly <input type="checkbox"/>	Since and accident <input type="checkbox"/>	Since work on the vehicle <input type="checkbox"/>
The area affected by the procedures or the collision _____		
Vehicle history		
Components were retrofitted by the workshop or the customer.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Which? _____	s	
Vehicle was in an accident.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Which part of the vehicle affected? _____	s	
The vehicle is parked under trees or other vegetation Yes <input type="checkbox"/> No <input type="checkbox"/>		
Circumstances under which the water leak occurs		
External		Internal
Heavy rainfall	<input type="checkbox"/>	Switch on the windshield wiper.
Continuous rainfall	<input type="checkbox"/>	Switch on the rear window wiper.
Frequent rainfall	<input type="checkbox"/>	Turn on the heating.
Drizzle (light rainfall)	<input type="checkbox"/>	Turn on the A/C system.
Washer system brushes	<input type="checkbox"/>	
Hand car wash	<input type="checkbox"/>	
Rain and speed	<input type="checkbox"/>	
In each of the determined situations	<input type="checkbox"/>	
Associated with existing faults		
Noise generation	<input type="checkbox"/>	Damaged Window Glass <input type="checkbox"/>



Whistling sounds due to air entry	<input type="checkbox"/>	Collection of leaves in the plenum chamber area.	<input type="checkbox"/>				
Poor Radio Reception	<input type="checkbox"/>						
Amount of Water	Water puddles on the floor	<input type="checkbox"/>	Moist Floor	<input type="checkbox"/>			
Water Quality							
Rain Water	<input type="checkbox"/>	Tap Water (Washer System)	<input type="checkbox"/>	Washer Fluid	<input type="checkbox"/>	Coolant	<input type="checkbox"/>
Can the responsible component/source of the water leak be located?							
Left Headlamp	<input type="checkbox"/>	Right Headlamp	<input type="checkbox"/>	Left Front Wheel Housing	<input type="checkbox"/>	Right Front Wheel Housing	<input type="checkbox"/>
Plenum Chamber	<input type="checkbox"/>	Windshield	<input type="checkbox"/>	Left Front Vehicle Interior Floor	<input type="checkbox"/>	Right Front Vehicle Interior Floor	<input type="checkbox"/>
Left Front Door	<input type="checkbox"/>	Right Front Door	<input type="checkbox"/>	Front Door Window	<input type="checkbox"/>	Panorama Sunroof	<input type="checkbox"/>
Roof Antenna	<input type="checkbox"/>	Left Rear Door	<input type="checkbox"/>	Right Rear Door	<input type="checkbox"/>	Rear Door Window	<input type="checkbox"/>
Fixed Left Side Window	<input type="checkbox"/>	Fixed Right Side Window	<input type="checkbox"/>	Left Side Window	<input type="checkbox"/>	Right Side Window	<input type="checkbox"/>
Left Rear Vehicle Interior Floor	<input type="checkbox"/>	Right Rear Vehicle Interior Floor	<input type="checkbox"/>	Rear Lid	<input type="checkbox"/>	Rear Window	<input type="checkbox"/>
Left Rear Wheel Housing Liner	<input type="checkbox"/>	Right Rear Wheel Housing	<input type="checkbox"/>	Left Rear Lamps	<input type="checkbox"/>	Right Rear Lamps	<input type="checkbox"/>
Luggage Compartment	<input type="checkbox"/>	Radiator	<input type="checkbox"/>	AC Evaporator Water Drain	<input type="checkbox"/>	Rear Windshield Wiper System Leaking Line	<input type="checkbox"/>
Door Seal	<input type="checkbox"/>	Windowpane	<input type="checkbox"/>	Lock	<input type="checkbox"/>	Cap	<input type="checkbox"/>
Blocked Water Drain	<input type="checkbox"/>	Holes	<input type="checkbox"/>	High-Mounted Brake Lamp	<input type="checkbox"/>	other...	<input type="checkbox"/>
Which?							
Comments:							



## Cautions & Warnings

**Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.**

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the Volkswagen Factory Approved Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

# Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

## Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the Volkswagen Factory Approved Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

**I have read and I understand these Cautions and Warnings.**

